5. Workability Indices of Coal seams.
6. Development and Field Trial of a cost effective appropriate method (Knife edge method) for extraction of thin seam.
7. Design of supports for mine roadways.
8. Investigation into thermal behaviour of some commercial explosives and their influence on rock blasting.
9. Investigation into the influence of blasting pattern and geotechnical properties of the surrounding rock mass on ground vibration, fragmentation and fly rocks.

MINE ENVIRONMENT

10. Development of Sealants.
11. Studies in Heat and Humidity in Coal Mines.
12. Assessment of status and control of underground coal mine fires.
13. Control of Pollution due to Toxic Gases Produced during operation with Explosives in underground Coal Mines.
14. Specific gas emission study for prediction of methane emission.
15. Investigation into the levels of pollution in water bodies in an around water resources project (at DVC area).

MINE ENGINEERING

16. Development of Sensors and Micro Processor based Switching System for Intrinsically safe Power Supply for Underground use.

Supply of Under Weighed LPG Cylinders by Shivanika Enterprises, Delhi

1430. SHRI D. B. CHANDRE GOWDA: Will the Minister of PETROLEUM AND NATURAL GAS be pleased to state:

(a) whether it is a fact that the gag cylinders supplied to the consumers by Shivanika Enterprises Vivek Vihar, Delhi are under weighed;

(b) whether one of the reasons for the above is that delivery-men engaged by the agency first supply the LPG cylinders to the hotels/restaurants and afterwards the same cylinders are supplied to the consumers; and

(c) if so, what action has been taken/proposed to be .taken against the agency?

THE MINISTER OF STATE OF THE MINISTRY OF PETROLEUM AND NATURAL GAS (SHRI BRAHM DUTT); (a) No, Sir;

(b) and (c) Do not arise in view of (a) above.

Expansion of Haldia Refinery

1431. SHRI MOHAMMED AMIN: Will the Minister of PETROLEUM AND NATURAL GAS be pleased to state:

(a) whether there is any plan for the expansion of the capacity of Haldia Refinery;

(b) if so, what are the details thereof; and

(c) if not, what are the reasons therefor?

THE MINISTER OF STATE OF THE MINISTRY OF PETROLEUM AND NATURAL GAS (SHRI BRAHM DUTT): (a) No, Sir.

(b) Does not arise.

(c) Expansion of Haldia Refinery is not considered feasible since it would cost as much as a grass root refinery. Further, other demand supply considerations also are not favourable for this expansion

Discovery of Hydrocarbons in West Bengal

1432. SHRI RAMNARAYAN GOSWAMI: Will the Minister of PET ROLEUM AND NATURAL GAS be pleased to state what steps have so

far been taken for commercial discovery of hydro-carbons in West Bengal and what are the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF PETROLEUM AND NATURAL GAS (SHRI BRAHM DUTT); Exploration work for hydrocarbon prospecting in West Bengal has been continuing since, 194ft. The details of exploration work done in West Bengal are as under:

Drifting	
No. of Wells drilled	26 (including 10 by Indo-Stanvac Petroleum Project) 3
No. of wells under drilling	
Surveys	
Seismic (SLK+GLK)	,509 (including 7,700 by Indo-Stanv.*r* Petroleum Project)
Geological (Sq. KM equivalent of Serni detailed mapping)	,800
Gravity M gnetic No. of Stations)	,200

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No commercial discovery of hydro-carbons has been made so far in West Bengal.

1433. [Transferred to the 18th August, 1988]

Coal Washeries and Coal Slurry in the River Bed

1434. SHRI SUNIL BASU RAY: Will the Minister of ENESGY be pleased to state:

(a) whether it is a fact that there are 7 coal washeries by the side of River Damodar in Bihar;

(b) if so, what is their total capacity;

(c) whether it is a fact that considerable quantum of coal turned into 'fires' is deposited as 'Slurry' in the river bed;

(d) whether it is also a fact that powerful agencies are operating to get control over these 'slurries' in which the contractors and some BCCL officials are interested; and

(e) whether it is a fact that from the 'slurry' 55-60 per cent of fire coal with 15-16 per cent ash content is recoverable?

THE MINISTER OF ENERGY (SHRI VASANT SATHE). (a) and (b) Yes, Sir. There are 7 coal washeries situated near the Damodar River, Their total operable capacity is about 13.25 million tonnes per annum of raw coal.

(c) No, Sir. During the rainy Season, however, small quantities of coal fines that escape recovery at the washery end find their way through the nallahs into river.

(d) No, Sir. Contractors are en gaged by Bharat Coking Coal Ltd., through open tender system for a specified period for extracting coal fines from the slurry settling ponds.

(e) Yes, Sir. This is, however, possible only if the slurry is subject ed to froth floatation process and not by the ordinary settling ponds method.

Development of Formed Coke Technology

1435. DR. R. K. PODDAR: Will the Minister of ENERGY be pleased to state:

[J] (a) whether it is a fact that Formed Coke Technology developed by CFEI, Dhanbad is not being promoted by Government; and

(b) if not what steps have been taken to produce formed coke indigenously to save foreign exchange?

THE MINISTER OF ENERGY (SHRI VASANT SATHE): (a) and (b) Central Fuel Research Institute has developed the technology for production of formed coke on a Pilot plant scale. Formed coke produced onthe basis of this technology was tested in low shaft blast furnaces of Kalinga Iron Works, Barbil (Orissa)